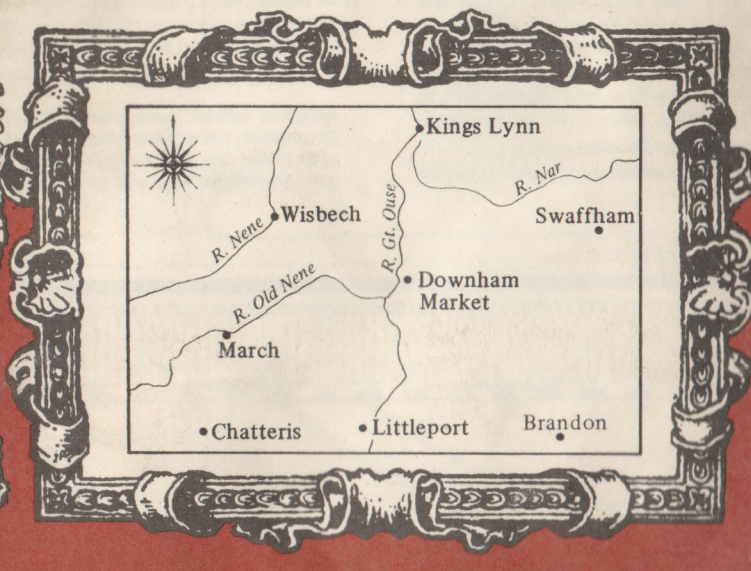


*Sheet*  
**45**

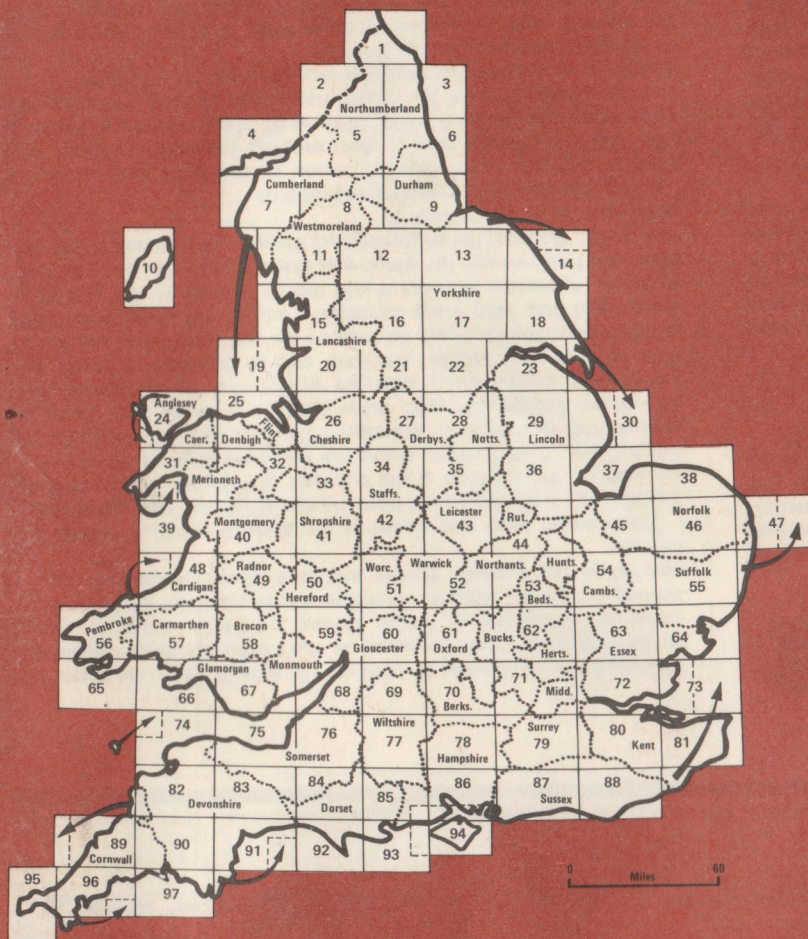
*Reprint*  
*of the first edition of the one-inch*  
**ORDNANCE SURVEY**  
*of England and Wales*

# DOWNHAM





## Key to Sheets



Published by David & Charles  
Brunel House, Newton Abbot, Devon

















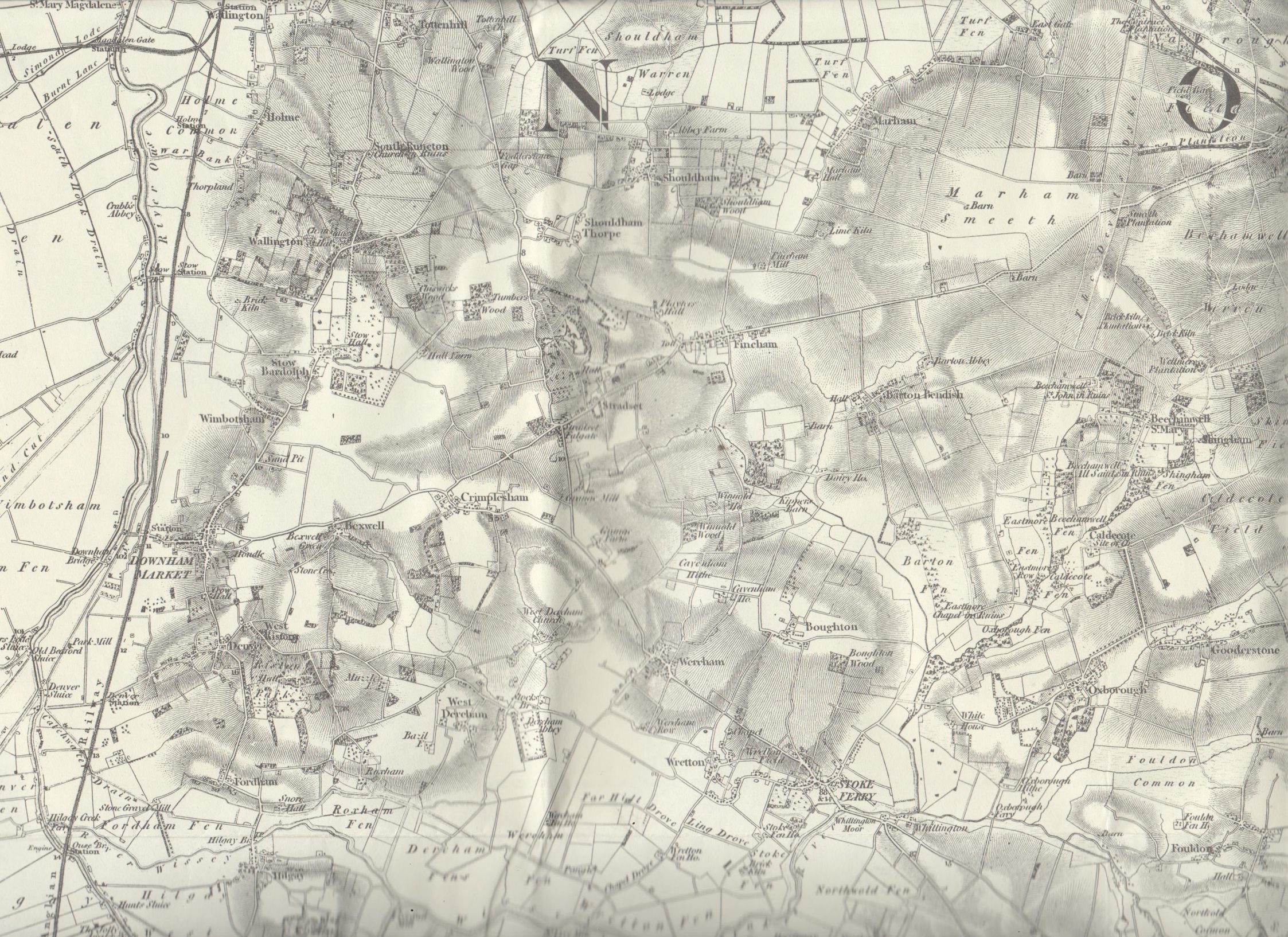
















52° 40'  
52° 39'  
52° 38'  
52° 37'  
66  
52° 36'  
52° 35'  
52° 34'











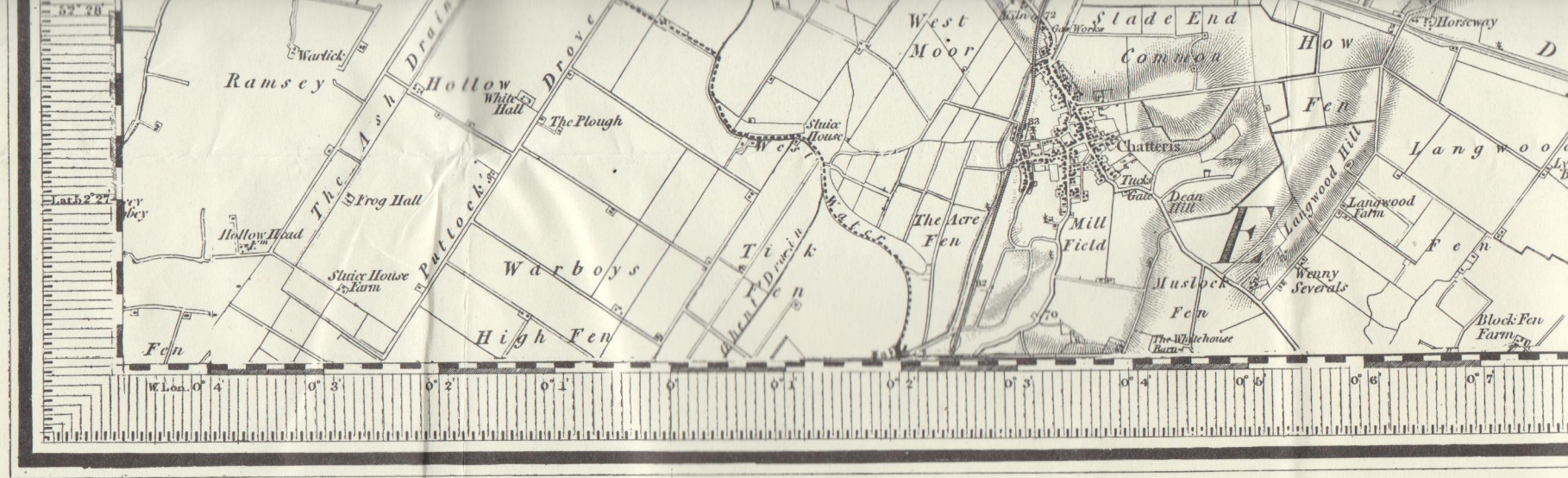






52° 33'  
52° 32'  
52° 31'  
52° 30'  
52° 29'  
52° 28'  
52° 27'





*Published at the Tower of London 4<sup>th</sup> March 1824 by Major Colby of the Royal Engineers.  
Meridian of Greenwich*

## SHEET 45 DOWNHAM

Sheet 45 of the David & Charles edition was sheet 65, named Downham, in the *Old Series* of Ordnance Survey 1in maps.

### SURVEY

The triangulation for the Downham sheet, the area of which covered parts of Cambridgeshire and Norfolk as well as the south-eastern tip of Lincolnshire, was undertaken in the first decade of the nineteenth century. In the third volume of *An Account of the Trigonometrical Survey* (1811) by William Mudge and Thomas Colby, details of the principal trigonometrical stations—such as the steeples of March and Wisbeach Churches and the ‘Old Tower’ at Kings Lynn—were recorded.<sup>1</sup> After 1811, however, the Board of Ordnance discontinued the publication of scientific reports by the Survey as an economy measure and, only in that part of Cambridgeshire relating to sheet 65, do we have a record of the interior triangulation extending the network of observed points to a variety of local landmarks—windmills, church steeples (such as those of Upwell and Witney), or the patches of high ground rising above the general level of the Isle of Ely.

The map of Lincolnshire was a turning point in the history of the whole Ordnance Survey. The eight sheets—with their extensions into adjacent counties—were the last of the old-style ‘county’ surveys issued by the Board of Ordnance, a format initiated with Essex (1805); at the same time, they embody a number of important improvements which were to set the standards for the *Old Series* maps for the remainder of the 1820s and 1830s. The history of the Ordnance Survey in Lincolnshire is also distinctive insofar as it was executed out of its regular geographical turn in response to a request from the gentry of the county and, in the present note, four main stages in the development of the survey will be outlined.

In the first place, a field survey for part of the Downham sheet was commenced in 1810 as part of the regular south-to-north progression of the English topographical work.<sup>2</sup> It was executed at a uniform scale of 2in to 1 mile, by members of the Royal Military Surveyors and Draftsmen, probably assisted by local surveyors hired for the task. Their methods seem to have included the use of surveying compasses to take angular measurements, and pacing or the perambulator to establish distances within the triangulated framework. The

field parties were in receipt of supplementary pay for every square mile successfully surveyed and planned,<sup>3</sup> but standards of accuracy were almost certainly lower than those subsequently demanded by the Survey. Unlike sheet 64 (D&C 44) to the west, however, the survey had not been completed in 1817 when the question of advancing the publication of a map of Lincolnshire was raised. Large areas of the map, especially in the western Fenland district (although excluding Whaplode Fen in the north-west corner) were still without topographical plans.

The second episode to affect the progress of sheet 65 was the decision of the gentlemen of Lincolnshire to approach the Board of Ordnance to speed up the survey of their county. After Colby had returned to the Tower of London in the autumn of 1817, his opinion on this question was sought by Mudge, and the former’s reply was embodied in a letter dated 2 February 1818:

I really can discover no good motive for rejecting the offer of the gentlemen of that county. It may . . . be proper to obtain some definite statement of their intentions; but to what more proper object can the survey be directed, in time of peace, than to aid the general improvement of the country: and how can that be done more effectually than in giving maps of these counties where the most beneficial changes are taking place? In the county of Lincoln, the spirit of adventurous agricultural improvement has been most eminently displayed. Individuals have improved their fortunes, and the nation acquired additional resources from their efforts. New efforts are now making in the same county, and these efforts may be rendered more efficacious by the aid of the Ordnance map.

After exploring the potential problems in the decision to advance the Lincolnshire map, Colby concluded that the county

with the exception of a very small portion, would be comprised in five sheets. A sixth, which would probably contain a small portion of the Spurn Head, would be necessary to square the map. I should propose giving it to the proprietors in three parts, containing two sheets in each . . . The proprietors would not be long before they were possessed of an useful specimen of the work. The regular progress of the general survey from south to north need not be interrupted or essentially retarded, if a small additional sum were granted on account of the Lincolnshire map . . . I am sure I should be one of the last persons who would propose a deviation from the regular course of the survey; but in the present instance, there seems to me no difficulty in preserving that regular course, and at the same time meeting the wishes and furthering the interests of the Lincolnshire gentlemen.<sup>4</sup>

As it turned out, Colby’s optimism was not justified on several counts.

Not only did his initial design for a small additional sum for a ‘small additional sum’ of Ordnance and the inaccuracy of the map was a further cause of the delay. Ordnance reverted to the traditional method of raising advance subscriptions. The Letter Book for 1817–1822, there is a mention of the finances of the maps along with that the survey could be advanced on copies would be subscribed for at £1000 were collected within the county. An agent for the Ordnance Survey had been paid was Colby able to press for the production of the map.<sup>7</sup>

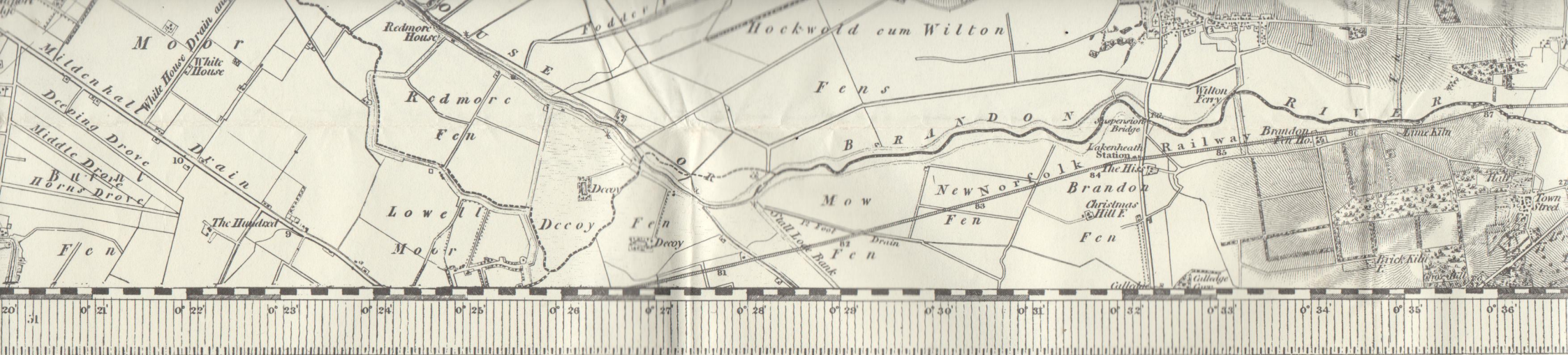
A third stage in the survey of the general decision on Lincolnshire, was the scale, the work for which was executed of plans relating to the Isle of Ely were already completed for the eastern part when Mudge had made a number of improvements of the topographical survey the organisation of the field work. In 1817 was disbanded and, although several ‘assistant surveyors’, there was an opportunity as well as new personnel. After Colby’s death in 1820, further measures were introduced numerous corrections on the copies of the grossly inaccurate plans should be incapable ‘from age or infirmity’ of the chief draftsman on the survey, was for work in the field.<sup>9</sup> Techniques of traditional surveying compass and perambulator were used in the detailed survey of Lincolnshire.

The final stage in the detailed survey and in common with many sheets in the field revision of the 2in plans and J. E. Portlock, posted to the survey, a rigorous revision’ was the ‘principal









Statute Miles.

Plan [was] surveyed to *Incorrect* points recommended to be resurveyed'.<sup>13</sup>

line proofs, these were used as the basic complete proof coverage was issued to the border nor hills, and on which a new set k. One of these carries the faint imprint g that heavy correction had disrupted the proofs, this time with hills and borders ed in the field before Colby was finally publication.

the fifty or so revision sketches or proofs a final draft was prepared for the engraver tion of the plans, for which a pantagraph by Thomas Yeakell, formerly of the Royal hose office was in the drawing room of the een assisted by other surveyors (such as he winter season, returned to work in the and revision of material took place at this sion of field boundaries on the original as to distinguish between drains, drains er types of field boundary, with resulting Draftsmen were also responsible for the the field.

y the Board of Ordnance had engraved its shop in the Tower of London being under y the date sheet 65 was engraving, he Catherwood, Ebenezer Bourne, Richard r<sup>16</sup>—each of whom was responsible for a s, lettering and so on.

fs for sheet 65 throw interesting light on engraver did not cut the hachures in one ages; some proofs therefore show thin lengthened and deepened on subsequent ants to be made to hill form and on one an explicit instruction that

The General Strength of Shade of these Hills must correspond with that of the Hills upon the Boston Sheet, keeping, *if anything*, rather darker towards the Summits of the highest parts, such as High Ash Hill, and the other places of equal depth of Shade. Swaffham and Docking, are about of equal height. A.W.R.<sup>17</sup>

Hill engraving was still an art rather than a precise science.

Once the outline proofs were available they were used not only for correction in the field, but for circulation amongst the gentry of the county in the hope that they would spot further errors. As early as April 1820, some of the Lincolnshire proofs were being forwarded 'to some gentlemen who would correct the orthography of the names' and who had been recommended in this task by Sir Joseph Banks, and included Lord Brownlow and a certain Mr Brackenbury.<sup>18</sup>

## PUBLICATION HISTORY

The main stages in the revision of the map are outlined below, although these should not be regarded as a definitive carto-bibliography embracing all printings where addition or deletion has produced alteration to the copper-plate or its successive electrotypes. Nonetheless, it will assist historians in assessing the extent of revision between the first printing of 1824 and that reproduced by David & Charles and allow isolated copies, in a variety of local map collections, to be dated approximately.

### 1) Early printings (1824-1840)

Sheet 65 was first published on 1 March 1824, as one of eight sheets (OS numbers 64, 65, 69, 70, 83, 84, 85 and 86), each measuring c34½ in x 23 in within the neat lines, and issued simultaneously. This arrangement reflected the continuing influence of the traditional county map, with the issue designed to furnish a map of Lincoln and Rutland. A separately engraved title page described the eight maps as 'Part of the General Survey of Great Britain, Carrying on by order of His Grace The Master General of the Ordnance, Containing Lincolnshire and Rutlandshire, with Portions of the Adjoining Counties. Performed under the direction of Major Colby of the Royal Engineers. F.R.S. &c. 1824'; this was probably engraved outside the Tower of London and is signed 'Jones & Barriff *scrip et sculp*'.<sup>19</sup> Unlike some of the earlier 'county' maps of the Ordnance, a border has been completed all on sides. The imprint 'Sold by Jas. Gardner, Agent for the Sale of the Ordnance Maps 163, Regent Street London.<sup>20</sup> has been engraved within the bottom border, and below the bottom border 'Printed by Ramshaw'.<sup>21</sup> The main imprints read

'Published at the Tower of London 1<sup>st</sup>. March 1824, by Major Colby of the Royal Engineers' and 'Engraved at the Ordnance Map Office in the Tower under the Direction of Major Colby, by Benj<sup>n</sup>. Baker & Assistants—The Writing by Eben<sup>r</sup>. Bourne'. The line of the meridian of Greenwich is shown parallel to the western border and is named outside the north and south borders.

There are at least two states of the early printings. The later state (as BM Royal copy) is distinguished from the earlier (including the BM Maps Ref copy) not only by the addition of the numbers of adjacent sheets within the borders but by several corrections along the southern edge of the sheet. These latter include the insertion of Brandon Park, the deletion of Calledge Carr and Downham Lodge and with other features such as Park Farm being partly reengraved. Unlike many changes to the *Old Series* copper-plates, we are able to date this revision precisely and to establish its exact purpose. The revision sketches for sheet 65 include several sections of the southern part of the printed map with these corrections added and dated June 1835; they are noted as 'necessary to make it join the Cambridge N<sup>o</sup> 51' (i.e. sheet 51 to the south the final revision for which was under way at this date) and were 'handed over to Mr. George [the engraver] that the necessary alteration on the Downham plate may be made at once'.<sup>22</sup>

### 2) Post-Gardner, pre-electrotype printings

Further changes were possibly made to the plate before the introduction (in 1847) of the process of electrotyping enabling duplicate copper-plates to be made and, on such copies of sheet 65, the Gardner and Ramshaw imprints will have been deleted. No copies have been located, however, which would enable us to specify the nature of any geographical changes.

### 3) First electrotype printings (1850s)

On the BM copy accession-stamped 1854 'Printed from an Electrotpe' has been added below the bottom border. The first railway information has been added to the plate, namely the East Anglian Railway, the Ely & Peterborough Railway, the Lynn & Dereham Railway, the March & Wisbeach Railway, the Norfolk Railway, the St Ives & March Railway and the Wisbeach & Lynn Railway. Otherwise the most extensive revision has occurred at Wisbeach—where north of the town a new district has been laid out with housing developments, Gas Works, Gaol, Eight Sail Mill, a Cemetery and Union House—and at Kings Lynn, part of the built-up area of which has been reengraved and is distinguishable by the hatching-in of some of the open areas on the early printings; 'Union' has also been added (there being no space for 'House')

Engraved at the

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Engraved at the Ordnance Map Office in the Tower under the Direction of Major Colby by Ben<sup>l</sup>. Baker & Assistants The Writing by Eben<sup>l</sup>. Bourne.

on 1<sup>st</sup>. March 1824, by Major Colby of the at the Ordnance Map Office in the Tower Colby, by Benj<sup>n</sup>. Baker & Assistants—The line of the meridian of Greenwich is shown and is named outside the north and south

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in the district south of the station. A number of changes have also been made in the countryside, as in the north-east of the sheet, where Litcham Heath and Weasenham Lings have been added and a number of other features altered.

The Index to the Tithe Survey, showing parish boundaries, was based on a further electrotpe plate when it was in this state of revision.

4) Middle electrotpe printings (1860s, David & Charles facsimile) A new inner edge has been added to the border with values for latitude and longitude. The electrotpe plate for the BM copy accession-stamped 1863 was made in 1862, but the only change to the railway network was an extension of the line north from Kings Lynn.

At least two other electrotpe duplicates were made in the 1860s. The first is the RMA copy, electrotyped in 1864 and printed in 1866; at this stage in the history of the copper-plate, the hachures were badly faded and in need of repair. A further electrotpe plate was made in 1867 and maps printed in 1869 (BM); it is distinguished by the fact that the hachures have been extensively repaired, by the insertion of spot heights and also by the addition of further railway material including the Great Northern Railway (March & Spalding Branch), the Suttonbridge & Lynn Railway, and the Midland Railway (Peterborough Wisbeach & Suttonbridge Branch).

The map published by David & Charles is reproduced from a copy of this state printed in 1870.<sup>23</sup>

5) Late electrotpe printings (post-1870) Changes made after 1870, probably effected on several electrotypes, re- corded further railway construction. Only one such late electrotpe has been located, however, the OS Record copy, duplicated in 1878 and printed in 1891. Railway details have been inserted to December 1886 and, since 1870, the Watton & Swaffham Railway and the Downham & Stoke Ferry Railway have been added; the Suttonbridge & Lynn Railway has been extended north-east of South Lynn and a new line inserted to connect it with the existing railway north of Kings Lynn. A note 'All rights of reproduction reserved' has been added; over much of the map the hachures are badly faded.

We may sum up by saying that the map published in facsimile is a composite document embodying material from a succession of dates. The engraving of 1824 (based on a survey commenced in 1810, carried on intermittently until the early 1820s and then extensively revised prior to publication) was subject to some revision around the towns, minor changes in the countryside and the addition of railways on a succession of electrotpe plates.

J.B.H.

#### References

- 1 William Mudge and Thomas Colby, *An Account of the Trigonometrical Survey . . . Vol III* (1811) contains such details as were printed relating to the triangulation of this sheet.
- 2 A list of these early drawings will be found in BM Maps Ref. B. 4a.
- 3 *British Parliamentary Papers*, 1812, IV 4, p 167.
- 4 J. E. Portlock, *Memoir of the Life of Major-General Colby*, (1869), p 93-96 discusses the survey of Lincolnshire.
- 5 Ordnance Survey Letter Book, 1817-1822, Manuscript at Southampton, p 339.
- 6 *Ibid* p 419, 424.
- 7 *Ibid* p 394.
- 8 *Ibid* p 224-6; for details see the note for sheet 51 (D&C 54) immediately to the south.
- 9 PRO WO 44/614.
- 10 OS Letter Book, cited, p 471.
- 11 J. E. Portlock, *op cit*, p 95.
- 12 OS Letter Book, cited, p 122-3.
- 13 BM Hill Sketches, serial 486 (1in sheet no 65).
- 14 OS Letter Book, cited, p 409.
- 15 *British Parliamentary Paper*, *loc cit*.
- 16 OS Letter Book, cited, p 331.
- 17 BM Hill Sketches, cited.
- 18 OS Letter Book, cited, p 28.
- 19 BM Maps 148 e 27.
- 20 The London directories show Gardner occupying the Regent Street address from 1824 to 1840.
- 21 James Ramshaw, engraver and copper-plate printer, 33 Fetter Lane, is listed in the directories from 1817 to 1855 and had a contract as Ordnance Survey printer during the period of the Gardner agency.
- 22 BM Hill Sketches, cited.
- 23 Copy in the collection of Mr. Robin V. Clarke.

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